

# LEARNING AND INSTRUCTION

The Journal of the European Association for Research on  
Learning and Instruction

VOLUME 2

*Editor*

E. DE CORTE



PERGAMON PRESS

OXFORD · NEW YORK · SEOUL · TOKYO

# LEARNING AND INSTRUCTION

*The Journal of the European Association for Research on Learning and Instruction*

## **Editor:**

Erik De Corte, *Center for Instructional Psychology and Technology, University of Leuven, Vesaliusstraat 2, B-3000 Leuven, Belgium*

## **Assistant Editor:**

Lieven Verschaffel, *Center for Instructional Psychology and Technology, University of Leuven, Vesaliusstraat 2, B-3000 Leuven, Belgium*

## **Associate Editors:**

Neville Bennett, *School of Education, University of Exeter, Heavitree Road, Exeter, EX1 2LU, U.K.*

Michel Fayol, *Faculté des Sciences, 6 Boulevard Garbriel, 2100 Dijon, France*

Roger Säljö, *Department of Communication Studies, University of Linköping, S-581 83 Linköping, Sweden*

Hans Spada, *Psychological Institute, University of Freiburg, Niemensstrasse 10, D-7800 Freiburg, Germany*

Stella Vosniadou, *School of Education, Aristotelian University of Thessaloniki, Thessaloniki, Greece*

## **Advisory Member:**

Noel Entwistle, *Centre for Research on Learning and Instruction, University of Edinburgh, 10/12 Buccleuch Place, Edinburgh EH8 9JT, U.K.*

## **Editorial Assistant:**

Betty Dang-Vanden Bavière, *Center for Instructional Psychology and Technology, University of Leuven, Vesaliusstraat 2, B-3000 Leuven, Belgium*

## **International Editorial Advisory Board**

Jesus Alonso Tapia, *Madrid, Spain*

Monique Boekaerts, *Leiden, The Netherlands*

Pietro Boscolo, *Padova, Italy*

Beno Csapo, *Szeged, Hungary*

Vasily Davidov, *Moscow, Russia*

Robert Glaser, *Pittsburgh, USA*

Giyoo Hatano, *Tokyo, Japan*

Steinar Kvale, *Risskov, Denmark*

Gerhard Lehwald, *Leipzig, Germany*

Magdalene Lampert, *East Lansing, USA*

Slobodanka Milanovic-Nahod, *Belgrade, Yugoslavia*

Edward Necka, *Cracow, Poland*

Pearla Neshet, *Haifa, Israel*

Terezinha Nunes, *Oxford, UK*

Erkki Olkinuora, *Turku, Finland*

Fritz Oser, *Fribourg, Switzerland*

Frederico Pereira, *Lisbon, Portugal*

Jan Prucha, *Prague, Czechoslovakia*

Brigitte Rollett, *Vienna, Austria*

Marlene Scardamalia, *Toronto, Canada*

Richard Snow, *Stanford, USA*

Johan O. Undheim, *Trondheim, Norway*

Richard White, *Clayton, Australia*

## **Subscription Rates**

*Learning and Instruction* is published as 4 issues per year (March, June, September, December).

Annual Institutional Subscription Rates 1994: North, Central and South America, U.S.\$170.00, Rest of World £109.00. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Application to mail at second class postage rate is pending at RAHWAY NJ. Postmaster send address corrections to *Learning and Instruction*, c/o Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

© 1993 Pergamon Press Ltd

## **Publishing/Advertising Offices**

Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, England

Pergamon Press Inc., 660 White Plains Road, Tarrytown, New York 10591-5153, U.S.A.

## CONTENTS

Experiences of Understanding in Revising for Degree Examinations A. ENTWISTLE and N. ENTWISTLE	1
Writing in Preliterate Children J. E. GOMBERT and M. FAYOL	23
Achievement Motivation in High School: Contrasting Theoretical Models in the Classroom I. MONTERO GARCIA-CELAY and J. ALONSO TAPIA	43
Reflections on Reflection J. VON WRIGHT	59
Improving Reading through Thinking Aloud M. SILVÉN and M. VAURAS	69
Cognitive Training Programs to Reduce Impulsivity-Related Achievement Problems: The Need of In-Classroom Interventions X. BORNAS and M. SERVERA	89
Internalization and Adult-Child Interaction E. ELBERS, R. MAIER, T. HOEKSTRA and M. HOOGSTEDER	101
How Can Hypermedia Tools Help Teach Programming? M. C. LINN	119
Incidental Learning, Intelligence, and Verbal Ability E. NEČKA, M. MACHERA and E. MIKLAS	141
Cooperative Learning with Computers: An Introduction P. H. LIGHT and Z. R. MEVARECH	155
Conceptual Knowledge in Physics: The Role of Group Interaction in Computer-Supported Teaching C. HOWE, A. TOLMIE, A. ANDERSON and M. MACKENZIE	161
When Talking Doesn't Help: An Investigation of Microcomputer-Based Problem Solving A. C. JACKSON, B. (C) FLETCHER and D. J. MESSER	185
Interaction, Gender, and Performance on a Computer-Based Problem Solving Task M. S. BARBIERI and P. H. LIGHT	199
Social-Cognitive Behaviors and Higher-Order Thinking in Educational Computer Environments B. K. NASTASI and D. H. CLEMENTS	215
Interdependence and Autonomy: Aspects of Groupwork with Computers C. HOYLES, L. HEALY and S. POZZI	239
How and How Much can Cooperative Logo Environments Enhance Creativity and Social Relationships? Z. R. MEVARECH and B. KRAMARSKI	259

Peer-Based Interaction at the Computer: Looking Backward, Looking Forward Z. R. MEVARECH and P. H. LIGHT	275
<b>COMMENTARY</b>	
A Plea for "More Local" Theories of Cooperative Learning H. MANDL and A. RENKL	281
On-Line and Off-Line Assessment of Self-Regulation in Learning from Instructional Text G. C. KUNZ, U. DREWNIAK and F. SCHOTT	287
Syntactic Manipulations and Semantic Interpretations in Algeria: The Effect of Graphic Representation M. YERUSHALMY and R. GAFNI	303
Learning to Use a Word Processor with Concurrent Computer-Assisted Instruction H. J. A. BIEMANS and P. R.-J. SIMONS	321
How Do Teachers Help Children to Learn? An Analysis of Teachers' Interventions in Computer-Based Activities N. MERCER and E. FISHER	339